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Valvular Heart Disease

IMPACT OF AGE, GENDER, AND METABOLIC SYNDROME COMPONENTS ON THE RATE OF PROGRESSION OF MILD CALCIFIC AORTIC VALVE DISEASE

Poster Contributions
Hall C
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Background: Demographic and metabolic factors which promote progression of calcific aortic stenosis in its early phase are poorly understood.

Methods: We identified patients with an initial aortic valve peak velocity of ≥ 1.8 but < 3.0 m/s by echo, and examined the effects of age, gender, and components of the metabolic syndrome (MS): body mass index (BMI) >26.7 in women, or >28.8 in men, with at least two of the following: triglyceride (TG) > 150 mg/dl, high density lipoprotein cholesterol (HDL) < 40 (men) or < 50 (women), fasting glucose > 110 mg/dl, or systolic blood pressure (SBP) ≥130. A linear regression model was used to obtain the mean annual change in aortic valve peak velocity.

Results: Among 5246 patients, the median age at initial assessment was 72 years (range 45 to 94 years); 2951 (56%) were male. A faster rate of progression was associated with older age (Spearman rank correlation coefficient r=0.14, P<0.001) (figure 1a), male gender (P<0.001), and with MS (figure 2). Among the components of MS, higher SBP (r=0.05, P<0.001) was associated with more rapid progression (1b), while highest tertiles of BMI (r=-0.07, P<0.001), and TG (r=-0.04, P=0.002) were associated with the least rapid. There was no relationship evident between HDL and rate of progression (r=0.02, P=0.20).

Conclusions: The rate of progression of mild aortic stenosis is greater in the very elderly, in males, and in those with higher versus lower blood pressures. Other components of MS (TG, HDL, and BMI) were not associated with rapid progression.